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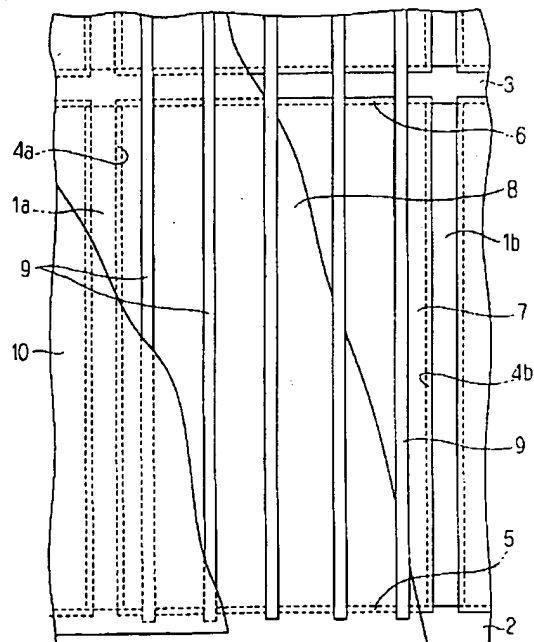
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(54) 【発明の名称】 家屋の外壁構造

(57) 【要約】

【課題】耐震性、特に直下型地震に対しても耐震性に優れた外壁構造にする。

【解決手段】土台2に立てた左右の柱1a、1b間に、各柱の対向側端縁に刻設した切込4a、4bに左右の端縁を嵌めた合板7を設けた構造。



## 【特許請求の範囲】

【請求項1】土台に立てた左右の柱間に、各柱の対向側端縁に刻設した切込に左右の端縁を嵌めた合板を設けてなる家屋の外壁構造。

【請求項2】土台に立てた左右の柱間に、各柱の対向側端縁に刻設した切込に左右の端縁を嵌めた合板を設け、合板の前面には適数本の縦棧を適当な間隔で取り付け、その上から外壁材を取り付けて、外壁材の裏側に縦棧間で構成される空気通路を形成してなる家屋の外壁構造。

## 【発明の詳細な説明】

【0001】

【発明の属する技術分野】本発明は家屋の耐震性に優れた外壁構造に関する。

【0002】

【発明の背景】家屋の外壁構造は、左右の柱間に筋交いを入れて軸組構造の強度を高めるようにしてある。しかし、筋交いは地震、特に直下型の地震に対しては誠に脆弱で、耐震性に乏しいという課題があった。

【0003】

【課題を解決するための手段】本発明は耐震性、特に直下型地震に対しても耐震性に優れた外壁構造を提供できるようにした。しかして本発明に係る外壁構造は、土台に立てた左右の柱間に、各柱の対向側端縁に刻設した切込に左右の端縁を嵌めた合板を設けたものとしてある。

【0004】より詳しくは、土台に立てた左右の柱間に、各柱の対向側端縁に刻設した切込に左右の端縁を嵌めた合板を設け、合板の前面には適数本の縦棧を適当な間隔で取り付け、その上から外壁材を取り付けて、外壁材の裏側に縦棧間で構成される空気通路を形成したものとしてある。

【0005】

【実施例】以下本発明の実施例を添付図面に示す具体例によって説明する。図において、符号1a及び1bは2本の左右の柱を示し、土台2に立設してあり、また符号3は上部の桁を示す。

【0006】左右の柱1a、1bには、その対向側端縁の前面に切込4a、4bを鑿などで刻んであり、また、土台の上部前面及び桁の下部前面にそれぞれ切込5、6を刻んである。

【0007】しかして左右の柱間には、補強板として例

えばベニヤ板などの合板7を、そのの左右端縁を左右の柱の前記切込に嵌め、下縁を土台の切込5に、上縁を桁の切込6に嵌めて耐力基礎構造としてあり、合板は釘で左右の柱に打ち付け、必要に応じては土台及び上部桁にも釘打ちする。なお、合板は釘を使用せずに、接着剤で柱、土台、上部桁に固定する場合もある。

【0008】合板の前面には通気性を有する防水シート8を張り、その上から合板に釘で打ち付けた適数本の縦棧（胴縁）9を適当な間隔で取り付け、その上から外壁材10を釘などで柱、縦棧に打ち付けて取り付ける。かくして合板の裏側に縦棧間で構成される空気通路11を形成する。

【0009】

【発明の作用、効果】本発明に係る外壁構造は、左右の柱間に、柱の対向側端縁の切込に左右端縁が嵌まっている合板が設けられ、また合板は下縁が土台の上部切込に嵌まり、上縁が桁の下部切込に嵌まっているので、柱と土台及び桁で構成される軸組構造は合板によって強固なものとなっており、したがって、強い振動や揺れに対しても歪むおそれは少なく、耐震性に優れたものとなっている。

【0010】また、外壁材の裏側には縦棧間で構成される空気通路が形成されているので、外壁材の裏側に空気が滞留することはなく、通気性が良好で、かつ結露が防止され、寿命の長い外壁構造とすることができる。

## 【図面の簡単な説明】

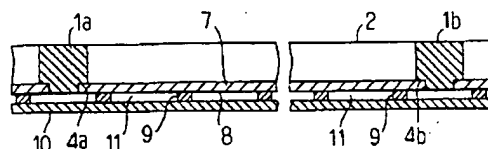
【図1】本発明による外壁構造の一部破断正面図。

【図2】本発明による外壁構造の横断平面図。

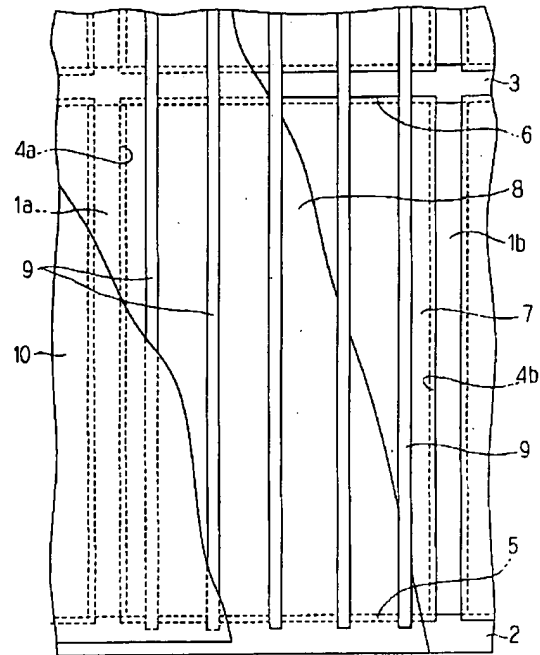
## 【符号の説明】

- 1a、1b 柱
- 2 土台
- 3 桁
- 4a、4b 柱の切込
- 5 土台の切込
- 6 桁の切込
- 7 合板
- 8 防水シート
- 9 縦棧
- 10 外壁材
- 11 空気通路

【図2】



【図1】



フロントページの続き

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E 0 4 B 2/56	6 2 2		E 0 4 B 2/56	6 2 2 B
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				6 3 2 B
				6 3 2 D
	6 4 4			6 3 2 K
				6 4 4 B
	6 5 1			6 4 4 H
				6 5 1 A
				6 5 1 L
1/26			1/26	E
1/70			1/70	D

(19)



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(21) Application number: 08199690

(22) Date of filing: 10.07.1996

(71) Applicant: TOEI KENSETSU KOGYO:KK

(72) Inventor: SATO NAOMASA

(54) EXTERIOR WALL STRUCTURE OF HOUSE

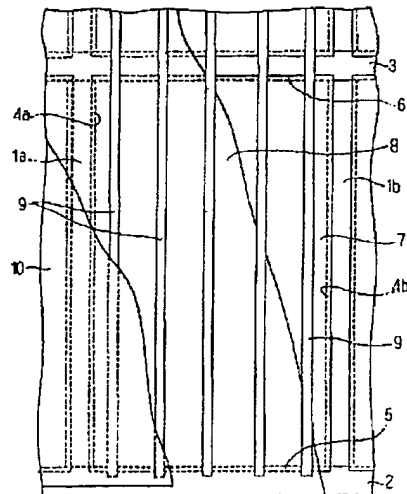
(57) Abstract:

PROBLEM TO BE SOLVED: To strengthen framework so as to improve earthquake resistance of exterior wall structure by fitting lateral edge of plywood into slits recessed at the opposed side edges of lateral columns erected on a still.

SOLUTION: Slits 4a, 4b are provided recessed at the front faces of the opposed side edges of lateral columns 1a, 1b erected on a still 2. Slits 5, 6 are provided recessed also at the upper part front face of the still 2 and the lower part front face of a girder 3. Plywood 7 such as a veneer board serving as a reinforcing plate is fitted into the slits 4a, 4b at the lateral edges between the lateral columns 1a, 1b, and the lower edge is fitted into the slit 5 of the sill, while the upper edge is fitted into the slit 6 of the girder 3. A gas permeable waterproof sheet 8 is stuck to the front face of the plywood 7, and the suitable number of vertical sash bars 9 are nailed to the plywood 7 from the top of the waterproof sheet 8. Exterior material 10 is further nailed to the columns 1a, 1b and the vertical sash bars 9. A space between the vertical sash bars 9, 9

is made an air passage. Framework structure formed of the columns 1a, 1b, the still 2 and the girder 3 is strengthened by the plywood 7 so as to improve earthquake resistance.

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CLAIMS

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[Claim(s)]

[Claim 1] Outer wall structure of a house of coming to prepare the plywood which inserted the edge on either side in the cut engraved on the opposite side edge edge of each column in the intercolumniation of the right and left stood to the foundation.

[Claim 2] Outer wall structure of the house which comes to form the air duct which prepares the plywood which inserted the edge on either side in the cut engraved on the opposite side edge edge of each column in the intercolumniation of the right and left stood to the foundation, attaches an adequate several stud in the front face of a plywood at suitable spacing, attaches outer wall material from on the, and is constituted by the background of outer wall material between studs.

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DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the outer wall structure excellent in the earthquake resistance of a house.

[0002]

[Background of the Invention] The outer wall structure of a house puts a diagonal brace into intercolumniation on either side, and has raised the reinforcement of framework structure. However, to the earthquake, especially the local earthquake, the diagonal brace was very brittle and the technical problem were scarce was in earthquake resistance.

[0003]

[Means for Solving the Problem] This invention enabled it to offer earthquake resistance and the outer wall structure which was excellent in earthquake resistance also to especially the local earthquake. The outer wall structure which carries out a deer and starts this invention should have prepared the plywood which inserted the edge on either side in the cut engraved on the opposite side edge edge of each column in the intercolumniation of the right and left stood to the foundation.

[0004] The air duct which prepares the plywood which inserted the edge on either side in the cut engraved on the opposite side edge edge of each column, attaches an adequate several stud in the front face of a plywood at suitable spacing, attaches outer wall material in the intercolumniation of the right and left stood to the foundation from on the, and is constituted between studs in more detail on the background of outer wall material should be formed.

[0005]

[Example] The example which shows the example of this invention below to an accompanying drawing explains. In drawing, Signs 1a and 1b show two columns on either side, and have set them up on the foundation 2, and a sign 3 shows a upside digit.

[0006] To the columns 1a and 1b on either side, Cuts 4a and 4b are fine cut by \*\* etc. in the front face of the opposite side edge edge, and cuts 5 and 6 are fine cut, respectively in the front face of the upper part of a foundation, and the front face of the lower part of a digit.

[0007] A deer is carried out, the plywoods 7, such as plywood, are inserted in the aforementioned cut of the column of right and left of the right-and-left edge of \*\*\*\* as the back up plate, the margo inferior is inserted in the cut 5 of a foundation, an upper limb is inserted in a cut of a digit, and it has considered as proof stress foundation structure at intercolumniation on either side, and it strikes against a column on either side with a nail, and if a plywood accepts the need, it is \*\*\*\*\* (ed) also for a foundation and an up digit. In addition, a plywood may be fixed to a column, a foundation, and an up digit with adhesives, without using a nail.

[0008] The tarpaulin 8 which has permeability is stretched in the front face of a plywood, the adequate several stud (furring strip) 9 struck against the plywood with the nail from on the is attached at suitable spacing, and the outer wall material 10 is struck and attached in a column and a stud with a nail etc. from on the. The air duct 11 constituted between studs is formed in the background of a plywood in this way.

[0009]

[Function and Effect of the Invention] As for the outer wall structure concerning this invention, the plywood with which the right-and-left edge has fitted in is prepared in a cut of the opposite side edge

edge of a column at intercolumniation on either side, and the margo inferior fits into an up cut of a foundation, and since the plywood has fitted into the lower cut of a digit, an upper limb There are few possibilities that the framework structure which consists of a column, a foundation, and a digit may be firm with the plywood, therefore it may be distorted also to a strong vibration and a strong shake, and they have become the thing excellent in earthquake resistance.

[0010] Moreover, since the air duct constituted between studs is formed in the background of outer wall material, air does not pile up in the background of outer wall material, permeability is good, and dew condensation is prevented, and it can consider as the long outer wall structure of a life.

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TECHNICAL FIELD

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[Field of the Invention] This invention relates to the outer wall structure excellent in the earthquake resistance of a house.

[0002]

[Background of the Invention] The outer wall structure of a house puts a diagonal brace into intercolumniation on either side, and has raised the reinforcement of framework structure. However, to the earthquake, especially the local earthquake, the diagonal brace was very brittle and the technical problem were scarce was in earthquake resistance.

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EFFECT OF THE INVENTION

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[Function and Effect of the Invention] As for the outer wall structure concerning this invention, the plywood with which the right-and-left edge has fitted in is prepared in a cut of the opposite side edge of a column at intercolumniation on either side, and the margo inferior fits into an up cut of a foundation, and since the plywood has fitted into the lower cut of a digit, an upper limb There are few possibilities that the framework structure which consists of a column, a foundation, and a digit may be firm with the plywood, therefore it may be distorted also to a strong vibration and a strong shake, and they have become the thing excellent in earthquake resistance.

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MEANS

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[Means for Solving the Problem] This invention enabled it to offer earthquake resistance and the outer wall structure which was excellent in earthquake resistance also to especially the local earthquake. The outer wall structure which carries out a deer and starts this invention should have prepared the plywood which inserted the edge on either side in the cut engraved on the opposite side edge edge of each column in the intercolumniation of the right and left stood to the foundation. [0004] The air duct which prepares the plywood which inserted the edge on either side in the cut engraved on the opposite side edge edge of each column, attaches an adequate several stud in the front face of a plywood at suitable spacing, attaches outer wall material in the intercolumniation of the right and left stood to the foundation from on the, and is constituted between studs in more detail on the background of outer wall material should be formed.

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EXAMPLE

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[0008] The tarpaulin 8 which has permeability is stretched in the front face of a plywood, the adequate several stud (furring strip) 9 struck against the plywood with the nail from on the is attached at suitable spacing, and the outer wall material 10 is struck and attached in a column and a stud with a nail etc. from on the. The air duct 11 constituted between studs is formed in the background of a plywood in this way.

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DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] The outer wall structure by this invention is a fracture front view a part.

[Drawing 2] The crossing top view of the outer wall structure by this invention.

[Description of Notations]

1a, 1b Column

2 Foundation

3 Digit

4a, 4b Cut of a column

5 Cut of Foundation

6 Cut of Digit

7 Plywood

8 Tarpaulin

9 Stud

10 Outer Wall Material

11 Air Duct

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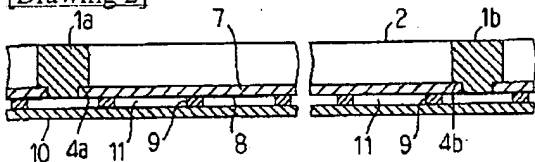
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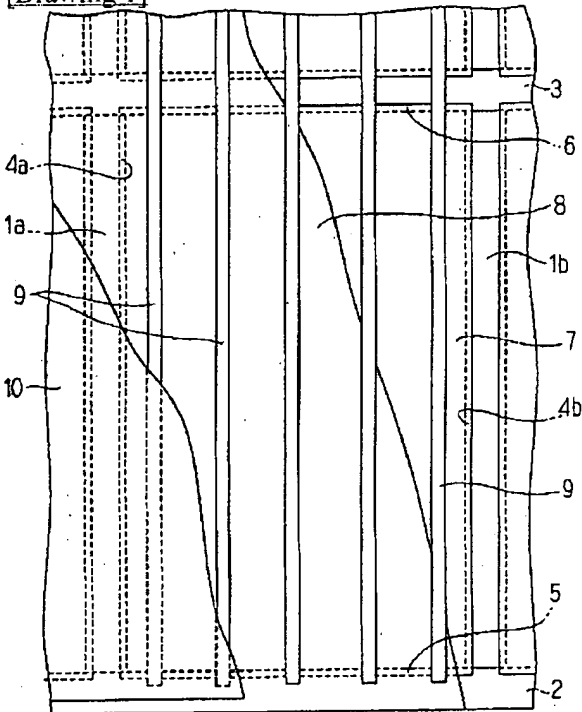
DRAWINGS

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[Drawing 2]



[Drawing 1]



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